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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,643	02/19/2004	Satoshi Niyama	249124US0CONT	2198
22850	7590	04/01/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			WU, SHEAN CHIU	
			ART UNIT	PAPER NUMBER
			1756	

DATE MAILED: 04/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/780,643	NIYAMA ET AL.	
	Examiner	Art Unit	
	Shean C. Wu	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2005.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-47 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 33-47 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/807,425.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/19/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 33-47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 33, the claim language “the curable compound contains a curable compound containing a mesogen structural portion in its molecules and a curable compound containing no mesogen structural portion” is not clearly defined because one curable compound can contain a mesogen structural portion and no mesogen structural portion or two curable compounds one contains a mesogen structural portion and the other contains no mesogen structural portion. For example, the formula (1) contains a mesogen structural portion represented by Z and no mesogen structural portion represented by rest of groups other than Z. If Applicants intend to refer “a curable compound” containing a mesogen structural portion and no mesogen structural portion, they should clearly state so. If not, they also need to clearly define “a curable compound”.

In Claims 38-39, the claim language “curable compound contains two type of curable compounds” is also not clearly defined because in claim 33 the curable compound contains “a” compound. Also, the word “type” is vague because the word “type” renders the claim indefinite because the claim includes elements not actually disclosed (those encompassed by “type”), thereby rendering the scope of the claims unascertainable. See MPEP § 2173.05(d). Applicants should clearly defined the “two types” of curable compounds. The curable compounds can have the same formula (1)

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with different molecular weights or the curable compounds can have different formulae with different molecular weights.

In claim 39, the claim language “curable sites connectable to each other” is vague because the curable sites in formula (1) are A₁ and A₂ and at this point, other type of curable compounds is not clear defined.

In Claim 40, it is not clear which curable compound having a molecular weight of at least one 1,000 since they are two types of curable compound.

In Claims 41 and 42, the word “further” should be inserted before the “contains” because the “chiral agent” is additional compound.

The term "small" in claim 45 is a relative term, which renders the claim indefinite. The term "very small" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprized of the scope of the invention.

Claims 34-37, 43-44 and 46-47 are rejected because they are dependent claims.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 33, 36-37, 41, 45 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Hikmet (US 5,762,823).

The reference discloses a switchable cholesteric filter comprising an optically active layer, which is situated between two substrates provided with an electrode for applying an electric field. The optically active layer comprises a three-dimensional polymer network, which consists of the polymerization product of maximally 2 wt.% of monomers with at least two polymerizable groups and maximally 30 wt.% of liquid-crystalline monomers with one polymerizable group, and the rest of the optically active layer consists predominantly of a mixture of chiral and achiral liquid-crystalline molecules. The references further teaches that prior to polymerization, the mixture is provided between two flat, transparent substrates, for example of glass, which are provided with an optically transparent electrode, preferably of indium tin oxide (ITO), on the facing surfaces (see abstract and col. 3, lines 60-65).

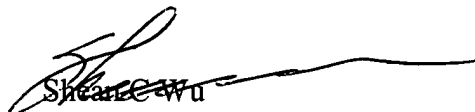
See figure 4, a polymerizable mixture comprises 0.8 wt.% C6M (present formula (1)), 19.3 wt.% CB6 (liquid crystal monomer), 39.4 wt.% CB15 and 39.5 wt.% BL006 (non-reactive chiral and non-reactive achiral liquid crystal) and 1 wt.% of Igacure 651 (curable catalyst). Also, see col. 5, lines 49-60. The reference anticipates the claimed invention.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C. Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 9:30 AM to 6:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sheana C. Wu
Primary Examiner
Art Unit 1756

SCW